

Canada



Alberta

**FOREST RESOURCE DEVELOPMENT AGREEMENT
ENTENTE SUR LA MISE EN VALEUR DES RESSOURCES FORESTIERES**



Canada

Alberta

The Canada-Alberta Forest Resource Development Agreement is a subsidiary agreement of the Canada-Alberta Economic and Regional Development Agreement, which provides coordination and cooperation between the governments of Alberta and Canada in areas of Alberta's economic development.

The Canada-Alberta Forest Resource Development Agreement is funded equally by the governments of Canada and Alberta, from April 1, 1984, to March 31, 1989.

Its primary objectives are to ensure the long-term availability of timber supplies; to optimize timber uses; and to contribute to the growth and diversification of Alberta's economy.

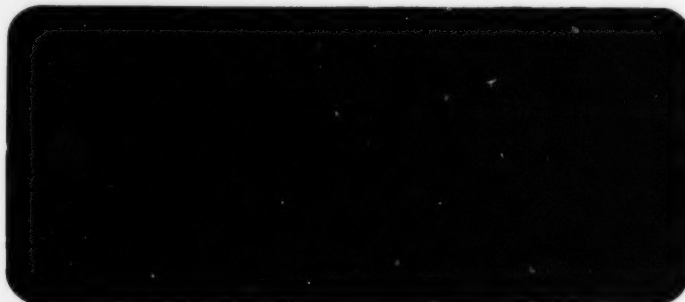
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L'Entente Canada-Alberta sur la mise en valeur des ressources forestières est financée à parts égales par les gouvernements du Canada et de l'Alberta, et a cours du 1er avril 1984 au 31 mars 1989.

Ses objectifs principaux sont assurer la disponibilité à long terme de réserves de bois; optimiser leur utilisation; et contribuer à la croissance et la diversification de l'économie de la province.

L'Entente comprend trois programmes: Reboisement; Recherche appliquée, transferts de connaissances techniques et relevé des occasions; et Information, évaluation et administration. Ces programmes sont gérés par un Bureau de direction conjoint, et mis en oeuvre par Forêts Canada et le Service forestier de l'Alberta.



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**DEVELOPMENT OPPORTUNITIES
FOR AN
ALBERTA PLYWOOD PLANT**

Woodbridge, Reed and Associates¹
(a Division of H.A. Simons Ltd.)
1988

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¹Vancouver, B.C.

DISCLAIMER

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ABSTRACT

The commodity sheathing plywood market will be increasingly competitive due to substitute boards, large modernized plants and possibly US suppliers. The Alberta plywood plant analyzed will be a high cost producer, even if modernized, due to its small size and the cost of wood. An examination of specialty product opportunities indicates that the most promising option is hardwood plywood using softwood veneer cores and, also, particleboard/MDF cores. The recent closure of a competing plant is particularly fortuitous. A major constraint is the balance of veneer qualities in the raw material currently available. It will be difficult for the plant to operate at more than 50% hardwood plywood unless new sources of substrate quality veneer can be found.

EXECUTIVE SUMMARY

Since early 1986 the domestic Canadian market for softwood plywood has been strong and prices have been good. In the long term, however, the competition from substitute boards, modernized low cost producers and possibly US suppliers is likely to be severe. Consequently an Alberta plywood producer wished to review its long term strategy. The company owns and operates a plywood plant in Alberta. This facility has the capacity to produce 50,000 m³ of plywood annually and, until recently, the principal products have been sheathing grades of softwood plywood. The plant has the ability to dry veneer and manufacture plywood but is not able to produce veneer from logs. The veneer must therefore be purchased from other facilities.

A study was commissioned to review the company's operations and the market outlook in order to identify medium and long term strategies for the plant. The study was funded jointly by the company and the Canada-Alberta Forest Resource Development Agreement and undertaken by Woodbridge, Reed and Associates (a division of H.A. Simons).

The outlook for sales of commodity softwood plywood into the Canadian market is critical to the operation since this product currently forms its core business, even though up to 30% of 1987 production will be in different types of hardwood plywood.

It is believed that this commodity market will become increasingly competitive over the next few years and that prices are unlikely to increase and may even decline. The reasons are:

- continued pressure from existing and new waferboard/OSB plants,
- further modernization of the large automated BC plywood producers,
- a decline in Canadian housing starts over the next few years from the particularly high level evident in 1987,
- strong competition from US suppliers in export markets.

It is expected that the overall volume of plywood consumed in the Canadian market should remain reasonably static and not resume the decline of the late 1970s. However, this expectation is predicated on the assumption that the large plywood producers can reduce costs in order to resist further substantial inroads by waferboard/OSB. It is, therefore, inevitable that a plywood manufacturer that remains a high cost producer of commodity softwood grades is unlikely to be economically viable in the long run. There may well be demand/price peaks for periods of time when such a mill can make money but there are likely to be longer periods when it must close or operate at a loss.

Analysis of the operation indicates that its production capacity is well below that of most mills producing sheathing plywood and that unit production costs are significantly higher. The principal reason for these weaknesses relate to the cost and availability of wood rather than substantial manufacturing deficiencies. The constraint, therefore, is not one that can be significantly alleviated by modernization of the plant. Some savings may certainly be possible, for example relative to the capacity of the veneer dryer, but these are unlikely to result in sufficient cost savings to offset the high cost of wood.

Production and market opportunities exist, conceptually, for a great variety of products and grades other than commodity sheathing plywood. These must, however, be examined closely in the light of the particular circumstances that exist for this operation. The existing assets, the availability and quality of raw material and the marketing/distribution system are all elements that affect the real or practical potential of these other products for the company.

A number of product options were examined first in terms of market potential and second in terms of their suitability for the operation. The most promising opportunity appears to be hardwood plywood. The other opportunities have to be given a lower priority or discarded for a variety of reasons.

Product Line	Constraints
Laminated Veneer Lumber	no appropriate existing assets, lack of wood/high wood cost
Treated Plywood	unsuitable raw material
Concrete Form Specialties	unsuitable raw material, high cost of product/market development
MDO and other Similar Overlays	small markets, substantial competition, high cost of entry, inadequate distribution system
Specialty Lay-ups	no immediate market opportunities identified
Drawer Sides	unsuitable raw material
Formed Plywood	small markets, unsuitable raw material
Cut to size	competition from local specialists, need for high cost specialty marketing effort, only 4x8 panel available
Scarfe jointing	lack of market requirement

The hardwood plywood market in Canada is well established and there are a variety of suppliers. The term hardwood plywood is somewhat misleading and the market research revealed that the actual product can be either a hardwood veneer face and back on a softwood or poplar veneer core or on a particleboard core. The major markets (Ontario/Quebec) are for particleboard core.

The principal species for the face veneer on these plywoods is birch with oak the next most common. In addition there is a substantial volume of poplar plywood sold in the market to satisfy uses where, though a paint grade is needed, quality is less important.

The company has proved successful in the establishment of a presence as a manufacturer of birch plywood in particular. At present the bulk of the production is shipped to the western provinces. Further development of hardwood plywood manufacture for sale to Canada and possibly the US appears very possible. The closure of a major western competitor - Weldwood in BC - has increased the viability of this option.

Due to the market preferences, competition, the availability of raw material and transportation costs the following product/market options for Canada would have potential (in order of priority) for the company.

1. Veneer core hardwood plywood to western regions
2. Particleboard/MDF core hardwood plywood to western regions
3. Veneer core hardwood plywood to the Maritimes
4. Veneer core hardwood plywood to Ontario and Quebec.

This last option is limited in volume, due to market preferences for particleboard core, unless the price is reduced to a level where the product can compete directly with poplar plywood. It is believed that a preferable option would be to penetrate US markets at a higher return and an initial evaluation of selected regions indicated this should be possible.

It is not believed that it would be economic to market particleboard core hardwood plywood to Ontario and Quebec. These regions are both substantial producers of particleboard and there are a number of well established local companies that produce hardwood plywood using local particleboard. In addition, of course, the hardwood veneer is shipped from Ontario and Quebec to the plywood plant.

Conclusions

1. It is likely that it will be increasingly uneconomic for the company to continue to manufacture commodity softwood plywood sheathing as the principal product line. It will only be in short term peak market situations that profitable operation may be possible.
2. The best opportunity for the operation is an expansion of current activity relative to hardwood plywood production. Ideally, the plant should become a manufacturer of only hardwood plywood of a consistently high quality. This approach could involve some capital expenditure for finishing equipment and an adjustment to the current raw material input. Not only will greater volumes of face veneers be required but also it will be necessary to obtain substantially greater volumes of good quality substrate.

More emphasis will be required on marketing and sales than has been necessary so far for sales of commodity product and relatively small volumes of hardwood plywood.

3. The opportunity for development of other specialty products does not appear promising. It is possible that a concentrated marketing effort with many sales calls in the field over a substantial period of time - perhaps six months - could identify some suitable small market niches that offer profitable potential.
4. The major constraint faced by the company relates to the availability and cost of raw material. This constraint still exists if the mill produces hardwood plywood. It was outside the scope of this study to investigate alternative suppliers of veneer. It is conceivable that, if fibre was made available in Alberta, lower wood costs could be achieved.

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1 - INTRODUCTION

An Alberta plywood company operates a mill with the capacity to produce 50,000 m³ of plywood per year. The principal equipment in the mill is a veneer drier, a glue line, a press and finishing equipment. Until recently, the production was principally regular and select sheathing grades of Douglas fir plywood (DFP) and Canadian softwood plywood (CSP). During the past 18 months a small proportion of the production has been in various grades of hardwood plywood.

Since the plant has no peeling capacity all the veneer must be obtained from other plants.

During the first half of the 1980s plywood came under increasing pressure from other types of products. There has been a rapid expansion in the production and use of, initially, waferboard and, more recently, oriented strand board (OSB). These products can be produced at an appreciably lower cost than plywood and are adequate for a number of uses. As a result of the competition from waferboard/OSB, the markets for plywood have declined and returns have been low (until recently). A number of the less efficient plywood operations have been closed permanently. Despite the improvement in volumes and price since 1986, there is a concern that the long term outlook for plywood may not be favourable.

Consequently, the company decided to undertake a detailed examination of the long term strategic options available for its plywood plant. Woodbridge Reed and Associates (a division of H.A. Simons) was commissioned to undertake an in depth study which was jointly funded by the company and the Canada-Alberta Forest Resource Development Agreement. The study was undertaken during the second half of 1987.

The specific objective of the study was "to analyze the development opportunities for the company.

The project team visited the facility to obtain information on the plant itself, the products manufactured and the costs. This information was put in the context of the overall market and the competition and a "long list" of development opportunities was identified. As a result of further analysis, some specific product lines were identified for field market research.

Initially, it had been expected that these options would be divided into those that could be pursued without significant capital expenditure and those that required capital expenditure. In the course of the study, however, it was concluded that due to the particular circumstances of the operation there were no outstanding opportunities that would justify substantial capital expenditure.

The initial approach taken was to examine the overall outlook for the Canadian structural board market to 1995. The potential competition from suppliers of plywood and substitute products was assessed. The manufacturing costs at the operation were evaluated in relation to the competition in order to ascertain whether the plant was a high, medium or low cost producer of commodity softwood plywood. The opportunity to improve the position was reviewed.

The field market research focussed on a variety of specialty, non-commodity, products and visits were made to a number of key cities in Canada. Some contacts were also made in the US to clarify the potential for hardwood plywood sales to the US.

As a result of the competitive analysis and the market research, conclusions were reached on which of the product/market options identified appeared promising and which were unsuitable.

Several meetings were held with the company during the course of the study.

2 - THE CANADIAN MARKETS FOR STRUCTURAL PANELS

"Structural Panels" is the collective term used to encompass Douglas fir and Canadian softwood plywood, poplar plywood, waferboard and oriented strandboard. Poplar plywood is of minor importance relative to the other products. The production of waferboard and oriented strandboard (waferboard/OSB) has grown rapidly in recent years. waferboard/OSB competes directly, in many markets, with coniferous plywood and has shown a steady growth in market share in Canada from 12% in 1980 to more than 30% in 1987. Table 2-1 shows structural panel shipments to domestic markets in 1980-1987. It would appear that market preferences are being established and market shares stabilized but it would be premature to draw firm conclusions in light of the unpredictable effects of the Free Trade Agreement and the National Transportation Act of 1987. In addition, the booming economies in Ontario and Quebec, compared with the other provinces, has tended to distort usual distribution patterns.

Table 2-1
Domestic Shipments of Structural Panels
Manufactured in Canada
1980 - 1987

	Volume Thousand Cubic Metres			Market Share %	
	Plywood	WB/OSB	Total	Plywood	WB/OSB
1980	1936	275	2211	87.6	12.4
1981	1738	368	2106	82.5	17.5
1982	1352	295	1647	82.1	17.9
1983	1642	474	2116	77.6	22.4
1984	1461	550	2011	72.7	27.3
1985	1605	591	2196	73.1	26.9
1986	1613	741	2354	68.5	31.5
Est. 1987*	1850	840	2690	68.8	31.2

Source: Statistics Canada

* Based on 9 months data

Canadian markets for structural panels are well established and exist in all parts of the country. Applications are diverse, ranging from minor uses in the manufacture of toys to massive, prefabricated, reusable concrete forms. However, the most important volume markets are in construction and industry for wall, floor and roof sheathing in housing, concrete forming, fences, crating, etc.--where strength and durability are the prime requirements. Virtually all that is consumed is produced in Canada and, at present, imports of structural panels are less than 3% of total consumption.

Coniferous plywood is mainly produced in Western Canada, 85% in British Columbia, the balance east of the rockies mainly in Alberta. Historically, distribution has been to five market areas: BC, the Prairies, Ontario, Quebec/Atlantic, and export. Each area consumed approximately 20% of total production. This percentage varies depending on regional economic activity and the dollar return to the mills. The pattern for the last five years indicates the growing importance of the eastern markets. See Table 2-2.

Table 2-2
Domestic Shipments of Coniferous Plywood to Eastern Canada
1983 - 1987

	Volume Thousand Cubic Metres			Percent of Canadian Market	
	Ontario	Quebec/Atlantic	Total Canada	Ontario	Quebec/Atlantic
1983	376	441	1642	22.8	26.9
1984	385	415	1461	26.3	28.4
1985	469	439	1605	29.2	27.4
1986	498	453	1613	30.9	28.1
Est. 1987*	575	555	1850	31.1	30.0

Source: Appendix I

* Based on 9 months data

The rise in domestic shipments of plywood has been supported to some extent by a reduction in exports reflecting the higher return to the mills of domestic sales. See Table 2-3.

Table 2-3
Export Shipments of Coniferous Plywood from Canada

	Thousand Cubic Metres	Percent of Total Shipments
1983	395	19.4
1984	426	22.6
1985	418	20.6
1986	288	15.1
Est. 1987*	290	13.0

Source: Statistics Canada

* Woodbridge Reed estimate based on 9 months data

The plywood industry's dependence on eastern markets underlines the importance of the Transportation Act and the deregulation of the railways. The competitive position of each mill could be affected by revised freight rates which will be subject to negotiation.

Unlike plywood, the waferboard/OSB plants are located in all parts of the country and the distribution of the product tends to be within a market area defined by the location of the plants. Table 2-4 shows the installed capacity on a regional basis as at the end of 1987. Two further plants are currently under construction, one in Ontario and the other in Quebec.

Table 2-4
Indicated Capacity of Waferboard/OSB Plants in Canada
on a Regional Basis

	Atlantic Provinces	Quebec	Ontario	Sask.	Alberta	B.C.	Total
Number of Plants	1	3	4	1	3	1	13
Indicated Capacity Thousand Cubic Metres	220	390	550	175	620	245	2200
% of Installed Capacity	10.0%	17.7%	25.0%	8.0%	28.2%	11.1%	100%

Coniferous plywood and waferboard/OSB compete directly for many uses where a structural panel is required. Regional changes in use of the products have reflected the growth in waferboard/OSB capacity and the location of new plants. Market shares are shown in Table 2-5.

It is noteworthy that plywood's share in the principal markets in eastern Canada appears to have stabilized, this is in spite of extra pressure from waferboard/OSB due to reducing exports.

Table 2-5
Estimated Regional Shares of the Structural Panel
Market in Canada
1980-1987

		Per Cent							
		1980	1981	1982	1983	1984	1985	1986	1987
British Columbia:	Plywood	99.2	99.6	99.4	94.8	89.2	88.3	84.1	82.2
	WB/OSB	0.8	2.3	2.6	5.2	10.8	11.7	15.9	17.8
Alberta:	Plywood	95.7	90.7	90.1	88.9	82.9	81.5	77.4	66.4
	WB/OSB	4.3	9.3	9.9	11.3	17.1	18.5	22.6	33.6
Saskatchewan:	Plywood	79.7	75.6	80.6	83.2	70.0	69.4	66.1	55.6
	WB/OSB	20.3	24.4	19.4	16.8	30.0	30.6	33.9	44.4
Manitoba:	Plywood	79.2	77.9	82.4	84.2	82.0	80.8	72.5	71.1
	WB/OSB	20.8	22.1	17.6	15.8	18.0	19.2	27.5	28.9
Ontario:	Plywood	76.6	68.0	66.5	59.7	55.3	59.4	55.4	57.5
	WB/OSB	23.4	32.0	33.5	40.3	44.7	40.6	44.6	42.5
Quebec:	Plywood	85.5	81.2	80.4	74.5	76.7	76.2	72.4	74.9
	WB/OSB	14.5	18.8	19.6	25.5	23.3	23.8	27.6	25.1
Atlantic:	Plywood	86.6	82.7	85.4	88.7	86.9	85.9	86.2	82.8
	WB/OSB	13.4	17.3	14.6	11.3	13.1	14.3	13.8	17.2

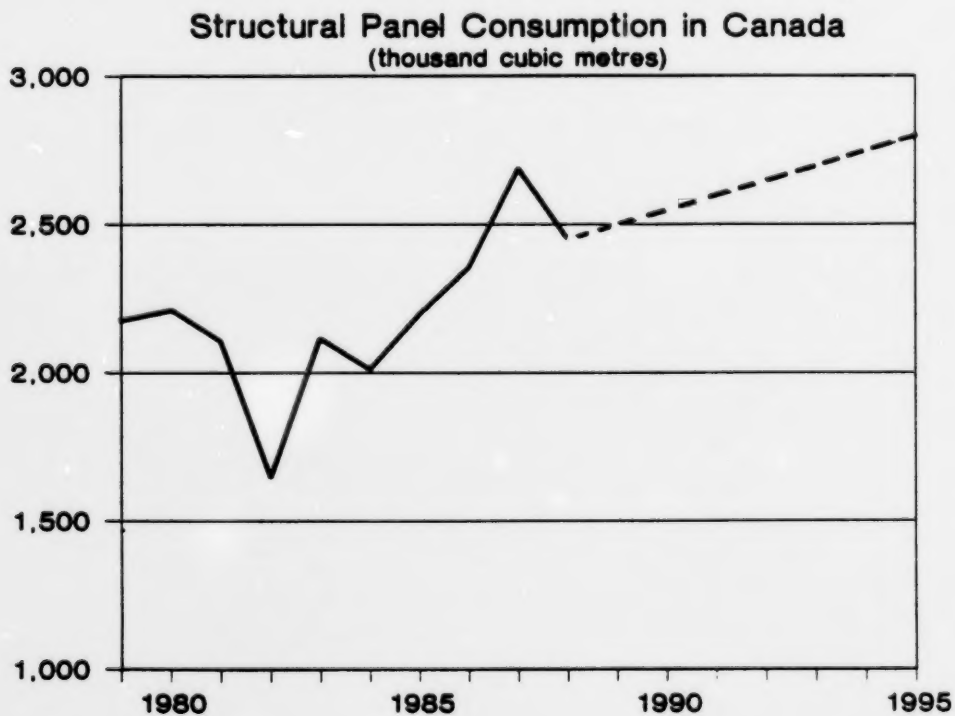
Source: Appendix Table 1

The end use markets for structural panels are established and there do not appear to be any obvious new uses to be exploited. Consumption will be governed by housing starts, non-residential construction, repairs and alterations, industrial production and the factors that determine the scope of those activities: population growth and makeup, overall GNP, interest rates, employment and so on.

The projections for total structural board demand in Canada are shown in Figure 2-1. It is believed that there will be a significant drop in consumption in 1988 from the very high level achieved in 1987. The big boom in housing in the Toronto area is over and a very substantial drop in housing starts is widely predicted. Though structural panel use is spread over a number of the consuming sectors a drop in housing will inevitably have an effect.

From 1988 there is expected to be a reasonable growth in consumption at around 2% per annum, i.e. at close to estimated GNP growth. The projections show the expected trend. It is inevitable, however, that there will be significant annual fluctuation around this trend level.

Figure 2-1



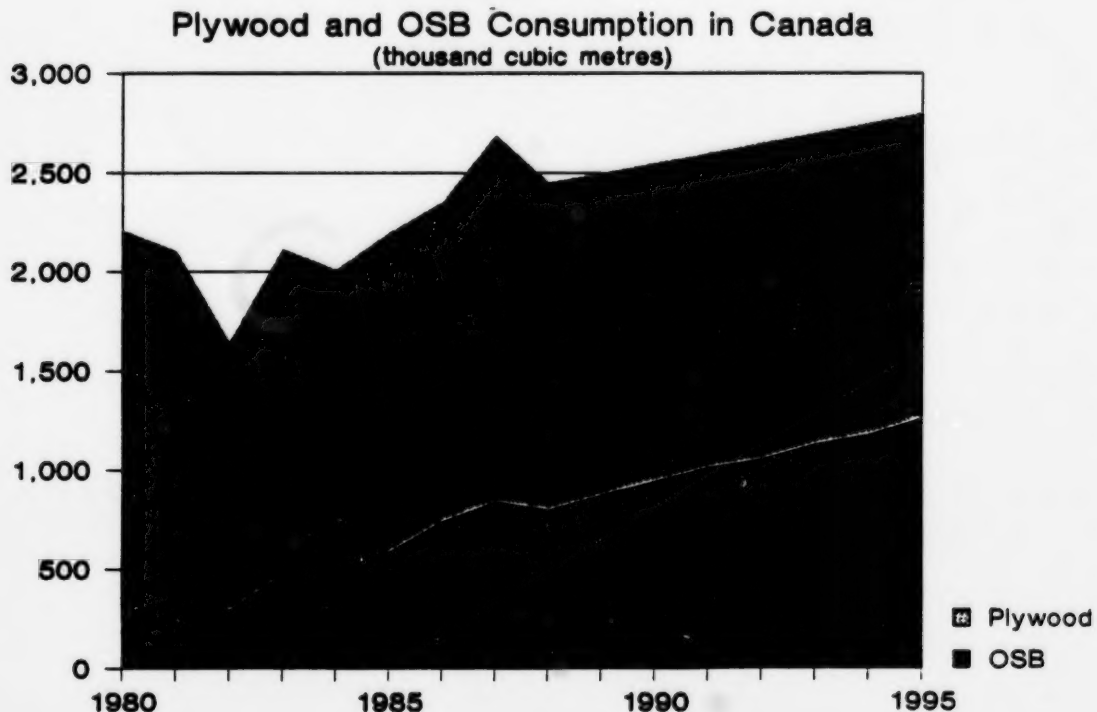
Source: Statistics Canada; WRA projections

Within the total consumption, the expected market share of waferboard/OSB is particularly critical to softwood plywood producers. There have been a number of projections, particularly by RISI (Resource Information Systems Inc.), that suggest a dramatic and continued growth in market share for waferboard/OSB from the current level of 32% to 56% by 1995. It is felt that this growth is somewhat overstated and that insufficient account is taken of two factors.

- there are a wide variety of uses where plywood is better suited or preferred
- plywood production costs can be reduced as a result of expected modernization.

This latter aspect has recently been offset by radical increases in stumpage costs to some producers. Nevertheless it is believed that the development of waferboard/OSB penetration will be at a slightly slower rate--reaching 45% by 1995 as shown in Figure 2-2.

Figure 2-2



Source: Statistics Canada; WRA projections

The impact of this growth in market share for waferboard/OSB on plywood is quite significant but not as drastic as has been suggested by RISI. Plywood consumption in 1988 is likely to be above 1986 levels but well below those of 1987. Thereafter, the trend is projected to be for a slight decline--the total drop by 1995 is approximately equivalent to the output of one medium sized mill.

The other markets that can have an impact on the outlook for sheathing plywood are the offshore export markets. For many years these have represented about 20% of shipment but in the last two years this share has dropped significantly (Table -3 above). There have been a number of contributing and interlinked reasons for this decline.

- the Canadian market has been strong
- plywood mills strive to achieve the same return from export markets as from the domestic market
- US mills, particularly in the South, have become familiar with European markets
- US markets have been very competitive with comparatively low prices
- US suppliers have been selling plywood to Europe at prices up to 30% below Canadian supplies
- some markets have decided that the price differential is more important than any quality differential. For example, imports by Holland are at record high volumes but over 90% is from the US.

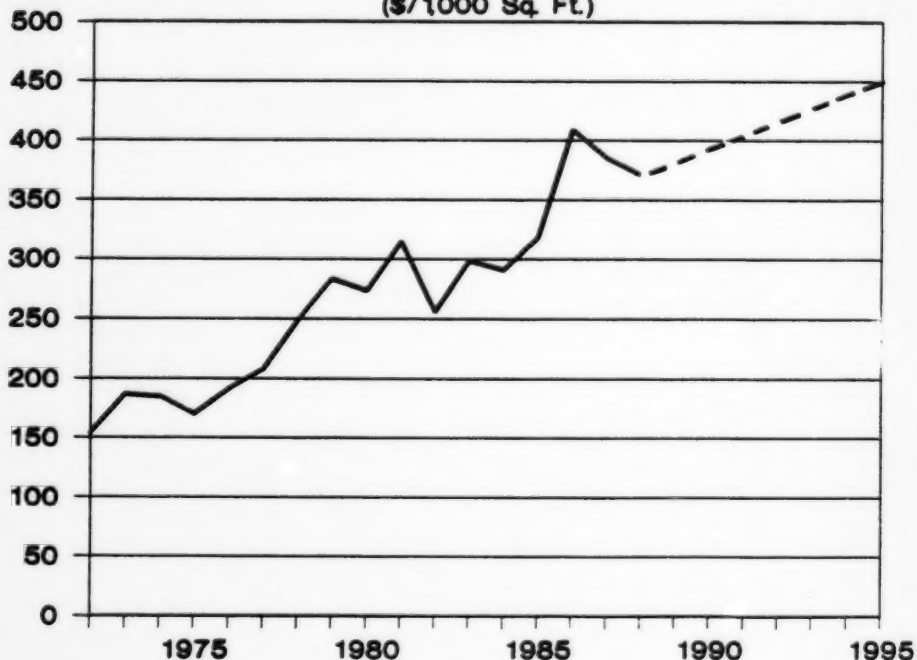
It is expected that the market for imported softwood plywood will grow in Europe. The Canadian share will depend on how competitive Canadian mills can be. There is little doubt that Canadian plywood is still preferred and if the price is reasonably similar, say within 5-10%, Canadian shippers can expand significantly from current volumes.

Given that the Canadian market is expected to be substantially more competitive in the future, there would appear to be a good possibility that export volumes can be increased. The most critical factor will be prices in the domestic Canadian market.

The prices for 1/2" CSP delivered Calgary are shown on Figure 2-3. It is evident from this figure that the 1986 price level was very much a peak. The projections shown take into consideration the expected modernization of the mills and a competitive market situation. These projections are on a trend basis and there will likely be cyclical annual fluctuations. The prices are expected to increase at less than inflation, i.e. there is expected to be a real price decline (as has been the case over the long term until 1986/87). Clearly this trend can only be possible if accompanied by cost reductions through improved production facilities.

Figure 2-3

Plywood Prices - 1/2" CSP Std. Sheathing, Del. Calgary
(\$/1000 Sq. Ft.)



Source: Madisons; WRA projections

It is assumed that 1988 prices will not show any appreciable recovery from end 1987 levels.

It should also be noted that these projections assume no significant change in the other external factors that make up the delivered Calgary prices (i.e. transportation, FST and markups).

In summary, the market outlook is for a continued demand for sheathing plywood but under severe competitive pressures. As prices become more competitive it should be possible to compete more aggressively in the European markets against US suppliers. Though offshore export is of little direct interest to this producer, it has the potential to somewhat reduce supply pressures in the domestic market.

3 - COMPETITIVE SUPPLY OF STRUCTURAL PANELS

The competition facing the producer of commodity softwood plywood is likely to be severe. This competition will be from three major areas:

- other Canadian producers of the same product
- waferboard/OSB
- US producers

Though there is some limited amount of loyalty to products and producers, the markets for commodity products differentiate little between alternative suppliers. Competition is primarily on price and service (presuming the product is suitable).

Canadian Suppliers

The recent upsurge in the profitability of commodity plywood encouraged a number of major companies to invest sizeable amounts of capital for modernization. Such companies as Weldwood, Northwood and Crown Forest have committed to investments which are resulting in improved processing--producing cost reductions of up to \$30 m³. In some cases greatly improved veneer recovery is allowing companies to make incremental plywood production increases - thus making possible further reductions in the production costs.

These companies are all integrated with sawmills and pulp/paper operations and have considerable flexibility in the movement of the raw material available to them from a variety of cutting licenses. From the figures that have been obtained on a confidential basis, it appears that the plywood production costs of these major companies are well below those of the company's operation. The principal reasons for the cost advantages of these producers are:

- much larger plants
- a greater level of automation
- significantly lower wood costs

In the last few weeks a further change has occurred. The new BC government regulations affecting stumpage and forestry costs will, in most cases, significantly increase plywood raw material costs. While these increases will vary widely between the companies, it is expected that, in the worst case, the costs of plywood production would increase by as much as \$20 per m³ due to the new stumpage levels.

The operation will be affected because the stumpage that must be paid for veneer logs in British Columbia will increase. It is the larger diameter logs that are required and these logs are particularly hard hit by the new policy.

At the same time, however, there is little certainty that these extra wood costs can be passed on in the plywood market. In fact, there is a strong possibility that 1988 prices will drop. Many of the competitive factors, such as waferboard/OSB, non BC plywood producers using local logs and US suppliers, are unaffected by the BC stumpage policies.

The increased cost of wood into the plant has placed even more emphasis on the importance of obtaining the maximum veneer output from the logs. Whereas, previously, stumpage had only accounted for about 3% of total production costs, this level could now be up to 15%. Consequently, companies with the most modern "green ends" will have a distinct competitive advantage.

Conversely, this operation, with no ability to control veneer costs, will be at a disadvantage.

In the light of the static outlook for the plywood market generally it seems highly unlikely that any new plywood mills will be built. However, as pointed out earlier, some potential capacity increases are resulting from the recent wave of modernization.

In summary, there will be increasing competition from low cost producers of commodity plywood.

Waferboard/OSB

The likely level of penetration by substitute boards was discussed in the previous chapter. Even though it was concluded that the growth rate should slow there is nevertheless continued penetration. There is a wide spread in market prices between sheathing plywood and waferboard/OSB. This spread is partly due to the differential in production cost between the products but also due to the strong competition between the producers of waferboard/OSB. The current prices for these substitute boards are so low that only the most efficient are achieving reasonable returns. It is therefore believed to be unlikely that waferboard/OSB prices should decline significantly from current levels.

There is likely, however, to be further expansion in production capacity. Two new plants are currently under construction in Ontario and Quebec. In addition, there are several companies actively considering construction of new facilities in BC and Alberta and it seems probable that at least one or two more plants will be built by the early 1990s.

Though these plants, particularly those in the West, will essentially be designed to serve the US market it is clear that there will continue to be strong competitive pressure on the Canadian structural board market. It was on the basis of this expected competition that the projections shown earlier in Figure 2-2 were developed.

US Producers

There has long been a concern that US suppliers could sell into Canada. The current tariff barriers in both directions are high and the markets have effectively been separated. During the Tokyo GATT rounds it was agreed that the tariffs should be lowered once harmonization was achieved relative to plywood standards. There was little interest in, or pressure on, achieving this harmonization, consequently nothing has occurred.

In the recent Free Trade Agreement, however, there have been some specific procedures outlined which are designed to change the situation. The relevant pages of the Agreement are shown in the Appendix. By March 15, 1988 the CMHC is to analyze the possibility of using plywood to US standards in housing it finances. If CMHC results show acceptance of the US product, tariff reductions would commence in 1989 in order to reduce the tariffs in both directions to zero by 1998. If not, there are appeal and other procedures.

Though the Canadian plywood industry is preparing to defend the status quo very strenuously it is very possible that politics will prevail and the outcome will be a reduction sooner or later. However, given the need to change the building codes and the gradual approach to be taken it is unlikely that US producers will be of any great competitive significance before the early 1990s. Analysis of the long term relationship between prices in the two countries indicates that Canadian suppliers would often have been more competitive into the US rather than the reverse, given zero tariff. In the last two years, however, this situation would not have occurred and it must be accepted that, relative to current conditions, acceptance of C-D plywood from the US will have a very detrimental effect on the Canadian plywood industry. The quality advantage of C-C sheathing will, in many uses, be ignored and the products will compete directly.

There is also a more immediate impact relative to offshore markets. Canadian producers have established, in Europe, that their sheathing plywood is of better quality, and worth more, than the US product. An enforced change in Canada will seriously undermine this promotional advantage and could affect offshore export sales.

The potential impact of the Free Trade Agreement is difficult to project until the situation is clarified. In the short term, up to 1990/91, it is likely to be minimal. Thereafter, however, the Canadian and US plywood markets will increasingly become one market and competition will intensify.

Impact on the Company Operation

It is apparent, therefore, from an examination of the various competitive supply factors, that the outlook for a high cost producer of commodity plywood, such as this company, is distinctly unfavourable.

The opportunities for the operation to improve manufacturing costs are relatively limited given wood supply and cost constraints. A particular problem that currently needs addressing is the capacity to dry veneer. One means of increasing the capacity could be to utilize high moisture content glues. Theoretically, with these glue formulations the veneer can be used at 12-14% moisture content as opposed to below 6% as currently necessary. Apart from other advantages, this approach effectively increases dryer capacity by 20%.

The current status of high moisture content glues was investigated. It was found that, though accepted in the US South with southern yellow pine, developments were slower in the US Northwest. Furthermore, there appear to be potential problems with Canadian species and, as yet, the technique is unproven in Canada. It is also important to note that the glue manufacturers themselves are currently hesitant about promoting this approach in Canada.

Though ultimately this technology may be applicable it does not appear to offer a short term solution to the problems at the operation.

It is concluded, therefore, that there is limited opportunity for the company to institute changes that would result in it becoming a low cost producer of commodity plywood.

Analysis of other production cost elements of the operation indicates that, for the scale of the operation that is in place, the plant is reasonably efficient. Certainly modernization of some aspects of the operation would reduce costs somewhat but to make any substantial improvement the plant would have to be converted totally to a high throughput automated facility. This approach is not practical due to the problems that exist relative to the high cost of even the small volume of veneer currently utilized. If the volume required is to be expanded significantly, the cost of the additional requirements would be likely to be higher still.

4 - NON COMMODITY PANEL PRODUCTS

Introduction

A number of possible development opportunities for products other than commodity plywood were identified. These were analyzed relative to the production potential at the company's operation, competitive supply, market demand and the need for product and market development. Field visits to Calgary, Edmonton, Winnipeg, Toronto, Kitchener and Montreal were undertaken and discussions held with distributors and some major consumers.

In this chapter the results of this investigation are explained. The most promising opportunity relates to hardwood plywood--a product line with which the company has already had some success. The market potential for this product is covered at some length. The great majority of the other products appear to be less promising for a variety of reasons.

Hardwood Plywood

The mixed hardwood forests of Ontario and Quebec produce a variety of species of hardwood veneer. Imports of the higher priced veneers from eastern United States augments the supply of face and back veneers used in the manufacture of hardwood plywood in Canada.

The term hardwood plywood covers a variety of products. These include:

- Poplar plywood in a range of grades from high quality sanded paint grades to low quality unfinished packaging grades. It is also produced in a 8' panel crossbanded on the face to provide core stock for other hardwood plywood producers.
- 'True' hardwood plywood where all plies are of the same species. This is usually produced in thinner thicknesses and is a relatively small part of the market.

- 'Veneer core' hardwood plywood with softwood veneer or poplar inner plies as a core (the latter is often supplied as a substrate plywood panel by the poplar plywood manufacturers).
- 'Particleboard core' hardwood plywood where the hardwood veneer face and back is glued to particleboard. MDF can also be used as the core stock.

A variety of species are used for the face veneers of hardwood plywood other than poplar. The most popular, usually accounting for 50 to 60% of production, is birch. In addition there is a substantial volume of birch veneer exported--mainly to the US (about \$40 million in 1986). Oak veneered plywood accounts for a further 15 to 25% of production. Oak veneer is also an important export item, earning over \$40 million in 1986. Other species such as elm, walnut, cherry, and so on are also utilized, but in small quantities.

Statistics Canada data for the shipments of hardwood plywood production in Canada are very delayed. However, in order to provide some indication of the relative significance of the different species the most recent figures are shown in Table 4-1.

Table 4-1
Hardwood Plywood Shipments--Canada
(Thousand m³)

	Poplar	Birch	Oak	Other	Total
1979	117	76	14	17	226
1980	97	73	18	15	203
1981	98	66	19	15	198
1982	85	54	14	9	162
1983	95	56	24	26	201
1984	92	31	22	26	171

Source: Statistic Canada

Not only are these figures far from up to date they should also be regarded with some caution. There could be some inconsistencies in reporting by the smaller companies and there is some doubt, on occasions, about how particleboard core plywood is recorded. The radical drop in birch plywood in 1984 is significant but contacts in the industry did not seem to support the idea of such a decline. On the other hand, it is known that in the last few years melamine faced particleboard has made very substantial inroads into markets such as the kitchen cabinet and low cost furniture industries.

A further problem with the data is the lack of any identification of the type of core involved. The market research indicated that there is a substantial variation across the country. The cost and availability of substrate material as well as regional demand for the finished product has created distinct regional differences within the industry.

Ontario and Quebec

With the largest industrial base for furniture and kitchen cabinets this region is predominately a market for particleboard core with small volumes of locally produced poplar-core hardwood plywood. Particleboard core accounts for close to 90% of the market. The main reason quoted for this preference is price.

Particleboard manufacturers in these two provinces have supported this section of the industry, being able to supply a satisfactory and lower cost substrate to the hardwood plywood manufacturer. In addition, the poplar plywood produced in these two provinces adequately supplies that part of the market requiring veneer core hardwood plywood.

Atlantic Provinces

A relatively small industrial market, which is traditional in its end uses and still prefers the veneer-core hardwoods. The market is supplied by product produced in Western Canada and Central Canada.

Manitoba

There is a medium sized industrial furniture and kitchen cabinet industry which mainly consumes particleboard-core hardwoods. Western Ontario particleboard manufacturers can economically freight their products into Winnipeg.

BC/Alberta/Saskatchewan

Predominately a veneer core hardwood plywood market area. Customers are traditional in their preferences. This preference has been supported by the western producers of veneer-core hardwoods who have remained competitive against the eastern particleboard-core producers.

There are a number of plants producing hardwood plywood in Canada. Apart from the Weldwood T-ply operation in BC, the great majority of the production is in Ontario and Quebec. The largest operation in central Canada is Weldwood at Longlac with a capacity of about 50,000 m³/year. This plant produces poplar and spruce veneer core hardwood plywood and ships up to 90% of its production to the US. The balance goes to the Atlantic provinces with a small volume to Ontario and Quebec. With the closure of the T-ply operation it is expected that Weldwood will wish to protect some of their existing customers in the west of Canada with supply from Longlac.

Other producers of hardwood plywood are:

- Birchland Veneer Ltd. - Thessalon, Ontario
- Canada Veneers Ltd. - Pembroke, Ontario
- Phoenix Veneers Ltd. - Mount Forest, Ontario
- Kingsway Plywood Ltd. - Fergus, Ontario
(Formerly VicPly Ltd.)
- MacMillan Bloedel Ltd. - Nipigon, Ontario
(Specialty plant producing a variety of products)
- Perfecta Plywood Ltd. - Saint Hyacinth, Quebec
- St. Casimir Plywood Ltd. - St. Casimir, Quebec

- E.L. Sauder Ltd. - Vancouver, BC

(Only exotic plywoods which are sold through its own distribution yards, no birch or oak)

The majority of these plants are relatively small, producing 1,000 to 2,000 panels per day. They are lay up operations purchasing the face veneer and the substrate--particleboard or crossbanded poplar plywood. They are very flexible and maintain close contacts with the industrial consumers so that they can service their needs as required.

Hardwood Plywood End-Uses

There are two principal market segments. The industrial market is the major market and includes furniture, both residential and office, kitchen cabinets, commercial office construction and renovation and general woodworking plants. The retail market, serviced by the building supply dealer, caters to the D-I-Y market, small builder and wood working shops. Governments and school boards are large consumers of hardwood plywood.

Consumers are very demanding of quality relating to panel thickness consistency, quality of face, and tightness of core.

It has proved impossible to obtain any definitive data on the size of the hardwood plywood market in Canada. The information that can be derived from Statistics Canada appears somewhat unreliable and varies significantly from the information obtained in the course of the study. It is also three years out of date.

On the basis of the market research and an analysis of the producers, it appears that Canadian consumption of hardwood plywoods such as birch, oak, walnut, cherry, and so on (excluding poplar) is approximately 100-120,000 m³. A surprisingly high proportion, 25 to 30%, of this volume appears to be consumed in Western Canada. In addition, Statistics Canada figures indicate there is approximately 70 to 80,000 m³ of poplar plywood, most of which is consumed in Eastern Canada. It may be that the lack of availability of high grade poplar paint grades in the western provinces is part of the reason for the high proportion of other hardwood plywood.

It is also worth noting that there is a small volume of these types of hardwood plywood, i.e. excluding lauan from S.E. Asia, being imported. The quantities are about 5 to 6,000 m³ and are in a variety of species. Of particular relevance to the company are the mills in the western region of the US. There are some mills which ship opportunistically into Western Canada--usually when local demand is weak.

The mills which are known to ship 4 x 8 stock panel into Western Canada are as follows:

Mount Baker Plywood Ltd.	-	Bellingham, WA
¹ Bufferin Manufacturing Ltd.	-	Tacoma, WA
States Industry Ltd.	-	Eugene, OR
Georgia Pacific Co. Ltd.	-	Eugene, OR

¹ Announced permanent closure January 1988

It is also worth noting that the Russians are taking an increasing interest in the Canadian market. Significant volumes of a good quality all birch panel have recently been appearing in Eastern Canadian markets.

The Opportunity for the Company

The company started producing hardwood plywood relatively recently and in 1987 the volume should reach about 13,000 m³ or 30% of its production. Consequently, considerable expertise has been developed within the plant in the production of the type of product required by the market. Particular success has been evident with birch plywood using birch veneer purchased from central Canada.

The production is currently limited by the availability of suitable substrate veneer. There are a number of options, however, to overcome this constraint.

The marketing of the product has been relatively 'low key' but has been successful in moving the available volumes. The majority of the volume has been sold to western markets with relatively small quantities to Ontario.

The forthcoming closure of the Weldwood T-ply plant provides an excellent opportunity for the company operation to expand hardwood plywood sales very substantially. It is believed that many of the problems that forced the T-ply closure should not apply to this company. These problems include:

- high cost coastal wood or high freight rates to ship veneer from the interior
- high labour rates
- the conversion of a very large old style coastal plywood plant to low through put production was difficult. A number of high cost factors were inherited e.g. the power plant.
- high cost/value industrial site.

The company's experience so far has been that the smaller operation has the ability to produce hardwood plywood very effectively. It is also worth noting that the operation has some distinct production advantages relative to other producers of veneer core hardwood plywood. The principal advantage lies in the ability to produce the product in a one step process. It is cheaper to buy veneer than plywood and the other producers must use a product for substrate that has already incurred the full costs of plywood production.

It must be emphasized, however, that if the company is to take advantage of this market/production opportunity it will no longer be a small marginal supplier into the market. The operation would become the leading supplier in the West and as such would have to place much greater emphasis on quality control, service and a consumer oriented sales effort. Furthermore, action will have to be taken fairly soon. The supply vacuum is unlikely to exist for long since supplies from Central Canada, e.g. Weldwood Longlac, or from the US will be available. Alternatively, and this would be the worse case, consumers would be forced to look for substitute products.

It is believed that the operation has an excellent development opportunity in the area of hardwood plywood. Not only are there substantial markets in Western Canada but also the operation is well placed to ship into a number of consuming regions in the US. Initial investigations indicated that, for example, acceptable returns could be achieved for sales to Denver and Salt Lake City at the prices currently prevalent in those two areas.

Provided that the mill can overcome the current constraint of suitable substrate it is felt that it could become, over a relatively short period of time, a producer of mainly hardwood plywood. The target Canadian markets would be as follows in order of priority:

- 1) veneer core to Western Canada
- 2) particleboard/MDF to Western Canada
- 3) veneer core to the Maritimes
- 4) veneer core to Ontario/Quebec

In addition, the US market is likely to offer excellent potential due to the favourable transportation rates available into some regions.

It must be emphasized, however, that there are very substantial problems relative to the ability of the operation to overcome the problem of availability of suitable substrate. Only a limited proportion of the currently used veneers are of sufficient quality to form a satisfactory substrate for the very thin hardwood veneer face that is used to manufacture hardwood plywood.

Consequently, it is difficult, if not impossible, for the operation to achieve a situation where all production is in the form of hardwood plywood. This study has not evaluated in depth the alternatives that may exist to solve this problem. It is known, however, that good quality aspen/poplar logs can produce a significant volume of veneer that would be of substrate quality. There are currently large volumes of aspen being processed by the forest sector (panelboards and pulp) and there will be considerable increases in the future. It is highly likely that a proportion of these volumes could produce suitable substrate.

An investigation by the Alberta Government of the possibility of diverting some part of this resource to new or existing peeling capacity in Alberta could result in the production of substrate veneer that would solve this problem. The lower qualities of veneer that develop could substitute for some of the high price core stock currently purchased from BC.

Laminated Veneer Lumber (LVL)

LVL, as a product in its own right, is virtually unknown in the marketplace. Though there are some companies producing LVL, they use most of their production in connection with a secondary product. The principal example is Trusjoist which uses LVL in the flanges of the I beams manufactured.

The production technology and the economics of manufacture are reasonably well known. Furthermore the conceptual potential for LVL in the marketplace appears, generally, promising. There is an increasing interest at the builder, architect and designer level in the use of wood in engineered structures. In addition, the costs of production are such that LVL could compete directly with lumber in the larger widths (2x10, 2x12). However, despite these general beliefs, there have so far been few companies announcing new LVL facilities. The most often quoted reason, according to the equipment manufacturers, has been a lack of confidence in the market potential. There is also a concern about competition from other types of products which essentially compete for the same end uses. The principal of these would be Parallam and a variety of manufactured joists (I beams etc.).

Since LVL is essentially a modification of the plywood process the cost and availability of suitable raw material is critical. Wood costs can represent up to 40% of LVL manufacturing cost even for a plant where the cost of logs is relatively low and the conversion to veneer is high. Unfortunately, the major weakness of the company's operation relates to the cost of veneer. The facility has no access to logs and no peeling capability. All the veneer used must be purchased from elsewhere and the landed costs are high.

Furthermore, there is little or no potential use of any of the existing equipment for a LVL line. The only possible exception is the veneer dryer and this would need major modification. Effectively, therefore, it would be a greenfield installation and there is little logic in constructing a LVL facility without economic access to raw material. It must therefore be concluded that LVL does not offer a viable development opportunity for the company.

Overlays

The plywood industry has produced a variety of specialty plywoods with overlays over the years. The one product that has had the most consistent success in the marketplace has been concrete form overlaid plywood. In earlier years the product used to be produced with various types of coating (polyurethane type) but impregnated papers of various formulations are now the typical product.

Overlaid concrete form plywood is being produced by Evans, MB, Weldwood and Crown Forest. Each company has a slightly different product and they have spent a considerable amount of time and effort in product development and, subsequently, in the market development. In all cases an 'all Douglas fir' panel is a major feature. As a product aimed towards a specific consumer group, which is itself very technically oriented, concrete form overlaid plywood requires a relatively sophisticated production and marketing approach compared with commodity plywood.

It is understood that the availability of Douglas fir veneers to the company is limited. Consequently, entry into the concrete form overlaid market in direct competition with current producers is not a practical proposition. The possibility of developing a lower quality product with pine or spruce veneers was also considered. Preliminary discussion in the market indicated, however, that development on these lines would be very difficult. The existing companies and products (particularly Evans 107), are extremely well entrenched. A very substantial amount of technical effort (theoretical and then with field trials) would be required to prove the performance capability of the product. Furthermore, once this had been completed, it would be necessary to sell the board at a discount to the products from other suppliers.

The potential for the development of a specialty overlaid concrete form plywood does not, therefore, appear to be a promising opportunity for the company.

In addition to overlaid plywoods for concrete form, there are other types of overlay. The principal of these is MDO (medium density overlay). MDO is essentially a high quality paint grade and, at one time, was widely used in furniture and shop fitting applications. It appears, however, that it is now mainly used for sign boards of various types (highways, advertising, etc.) and faces substantial competition from metal and plastic. Though a market does exist (and is being pursued by Crown Forest) it is fairly small in volume. Furthermore, Levesque in Quebec has recently developed a MDO product on poplar plywood. Samples of this product appear very good but it is suggested by some West Coast producers that the product is inferior to their MDO plywoods.

There are a variety of small market niches that could conceptually offer some potential. These would include non-slip overlays for stair treads and decking, high density overlays (truck floors) and glass fibre overlays (containers). The markets for these types of product are small and usually depend on the establishment of specific relationships with the consumers. It would be rare that the standard distribution system, operating on a third party basis, would be effective in developing these markets. The companies that have been interested in these products have tended to have their own distribution system.

It is also worth noting that a number of the specialty overlays, including the higher quality overlays, involve a two stage process. The suitable substrate plywood must be produced, sanded and prepared first and then the overlay is laminated onto the substrate. Consistently high quality product is vital since the cost of replacement of an off specification panel, once the consumer has incorporated it into his product, is very high.

While it may be possible for the company to develop products and markets for some of these specialty plywoods it would take a substantial amount of dedicated effort, first to identify the specific consumers and their needs and second to develop the necessary products. It is also unlikely that any one item would represent a significant volume.

It does not appear, at this stage, that development into a range of specialty overlaid plywoods would appear to be a promising option for the company.

Specialty Lay-ups

It is generally felt that there must be a variety of different lay-up and veneer thickness combinations that would provide plywood panels better suited to specific consumer needs. At the simplest level, the performance standard approach in the US has allowed some producers to manufacture thinner thicknesses than previously for the same applications. Intuitively, it is believed that this concept should apply in a variety of special uses. As an alternative there should be uses for higher performance panels or different thicknesses.

On the basis of the market research undertaken, it was not possible to ascertain any significant latent need for something different. None of the people contacted were able to suggest anything different from normal production that they or their customers needed. In part, this result would be due to the fact that the great majority of the people contacted were either large distributors with established trade patterns or large consumers who have long since rationalized their needs to what is available. It is also quite often the case that it is only when the product exists that the market becomes apparent (e.g. the paper clip, the 3M 'Post it', the FAX machine). Apart from a few individual instances, the plywood industry has been less than innovative in the development of new products. It was for this reason that one of the recommendations in the recent report on the BC panelboard industry was for the development of a major coordinated R&D effort.

Given the lack of identification or knowledge of any specific specialty lay-ups, the immediate opportunity for development along these lines is not apparent for the company.

Specific Specialty Items

In the course of the study two specific plywood products were identified that are worth considering. These products were drawer sides and curved or formed plywood.

Furniture manufacturers in the medium to high quality range often do not wish to use particleboard or even MDF for drawer sides. Traditionally, the product has been hardwood or pine lumber but the cost of lumber that is guaranteed not to warp or split has become very high. The furniture industry has therefore been looking for substitute products. One which appears to be well received is based on a special plywood lay-up. The product is 3/8" to 1/2" thick with the plies all laid in the longitudinal direction (like LVL). Furthermore every ply must be defect free since the drawer edge is exposed.

There are a few producers in the east (e.g. MB at Nipigon with "Paraply") who have developed this product. From the interviews with furniture manufactures it would appear that demand could increase significantly.

Unfortunately, the resource that is available to the operation is not suitable for a product of this quality.

Discussions with the furniture industry also indicated that there was a reasonable market for specialty formed plywood pieces. The backs and seats of chairs were the specific uses identified. In some cases, when the wood is left exposed, a very high quality defect free product is needed. In other cases, when the chair is upholstered, the appearance of the product is less critical.

There appear to be one or two small companies in Central Canada that specialize in producing these products. They purchase plywood, mainly birch or poplar and often off grade sheets, cut them to the appropriate size and then go through a process of soaking with ammonia, forming and drying. Poplar is particularly suitable but spruce should also perform satisfactorily. In fact some years ago there was a facility in BC that carried out this function.

The market does not appear to be large and plywood must compete with plastic and metal. Furthermore any product using locally available veneer, would only be able to compete for the end uses where appearance is of less importance.

It is not believed, therefore, that this product line offers a development opportunity for the company.

Cut-to-Size Panels

In an attempt to find a market niche that would fit the company operations and geographic location, the field studies examined the opportunity to service the cut to size softwood panel market. It is known that most retailers sell considerable volumes of CTS panels. In addition the industrial market uses a wide variety of sizes of various panel materials.

Field studies conducted largely at the wholesale and retail level concluded that while CTS panels do represent a significant volume, retailers by and large have in house CTS facilities and normally assess an up-charge for this service. None appeared willing to pay for the extra cost to obtain CTS panels from the supplier.

Several fairly large companies in the major industrial centres of Toronto and Montreal are specialists in producing CTS panels. These specialists buy a wide range of panel products and have effective sales staffs who sell to a broad range of industrial users. For example one company visited advised that it has over 1200 customers in 25 different industry categories.

For an operation like the company's to find customers who would buy sufficient volumes in the sizes that could be produced from 4x8 panels would be very difficult, and would face very tough competition from these specialists who can supply a wide range of materials and offer fast delivery service.

To approach this market, the company would need to spend considerable time and money in an attempt to find such industrial customers who had a requirement in volume that was comparable with the plant capacity. When company personnel visit the marketplace however they should be alert for such opportunities. It does not appear that it will be an easy task to find sufficient volume to warrant the cost of installing CTS facilities.

Scarfe Jointing

The most common technique of joining full sheets of plywood to produce sizes that are larger than those available from the press is known as scarfe jointing. Some years ago there were several operations with this capability. As far as is known there are now none in regular operation in Western Canada. The demand for the product has declined for a variety of reasons:

- the cost of the product was high since 2' of the panel was lost due to the joints. As an alternative the consumer can butt joint and nail to a support brace
- the cost of the operation itself was high
- oversize panels in substitute boards are readily available
- a major user had been the boat builder but it is now difficult to get marine grade plywood.

Contacts with the major plywood companies suggested that customers do, on occasion, still ask for oversize panels but the demand has not been large enough for them even to consider the feasibility of installing facilities. As an indication of the lack of interest, when the BCFP Victoria plywood operation was dismantled, there was no local buyer for the scarfe jointing machine and it was shipped to Minnesota where it is used for another purpose.

It does not appear that this opportunity is worth pursuing by the company.

Summary

The examination of a wide variety of product options indicates that the item with the best potential is hardwood plywood.

It is believed that small market niches for different products - unusual lay ups, non standard thicknesses, special surfaces and so on - certainly could exist. Indeed the company receives various requests from time to time for unusual products. There are major problems, however, in the identification of these types of opportunities. Sales calls at the 'grass roots' small consumer level over a period of time and covering a lot of territory would likely unearth a variety of needs but would cost a great deal.

It must also be appreciated that the volumes required for each item would be small and would demand a fundamentally different production approach (i.e. very short runs of each item). This approach is typical of the high value added plywood mills in Finland where the different specifications produced in the year number in the thousands. The manufacturing flow at the plant could, conceivably, be modified to undertake this type of activity. First, however, the consumers of all these products must be found.

The current level of sales activity of the company is insufficient to develop these types of markets. Furthermore, it is felt that even with the addition of sales staff, and this would not be easy to justify financially, given the uncertainty of the opportunities, it would be difficult to find enough of these market niches within an economic transportation distance. The type of program required would be one that concentrates more on raising the level of consumer awareness. A wide range of consumers in many different industry sectors in Alberta and Western Canada has to be made aware that the manufacturing capability exists to make exactly what they need. The company plant can then work with the individual consumers to satisfy their requirements.

Unfortunately, this type of consumer awareness publicity program is well beyond the activity that could be economically justified by the plant. It is possible, however, that there may be some Alberta Government local initiative programs that could help launch this type of approach.

5 - CONCLUSIONS

The commodity plywood market is going to be tough.

Though there will be a continued demand for sheathing grades of plywood the market is likely to be extremely competitive and prices will be significantly below the peak levels reached in 1986/1987. There will be substantial pressures from OSB and producers of low cost plywood. US suppliers could become an important competitive factor in the 1990s.

It will be difficult for the company to compete.

The production costs at the company's operation are significantly higher than the major competitors. The size of the plant is only one third of the larger plants and wood costs are much higher. The size of the plant is limited by the availability of "economic" fibre and plant modernization (at a similar scale of operation) would not lower costs sufficiently. The cost of veneer into the plant is outside the control of the operation and the cost increases resulting from the new BC stumpage policy will exacerbate the problem.

There is, therefore, little chance that any action can be taken by the company to bring commodity plywood production costs down to the level of the major competitors.

Hardwood Plywood looks good

The weakness of a lack of automation is a strength relative to the production of a variety of grades of hardwood plywood.

The operation has successfully developed the production of birch plywood in particular. With improved emphasis on quality control and the supply of suitable raw material the plant could substantially increase the volume of hardwood plywood produced. The increased volume would include birch and oak faces on softwood veneer cores, particleboard cores and MDF cores.

The company has already successfully established a foothold in the market with relatively little concentrated sales effort. Increased marketing and sales effort will result in increased volumes--the closure of the Weldwood T-Ply plant provides a particularly fortuitous opportunity.

But there are production problems.

Unless the plant can get more suitable substrate veneer the plant is limited in its capacity to produce hardwood plywood. A possible solution may be in the redirection of some Alberta resources.

Other specialty opportunities are not promising, unless

The constraints existing, in terms of raw material or the high costs of product and market development, are severe. There are, doubtless, small market niches for some specialty items but it would take a sustained marketing effort to identify them and to develop the necessary close relationship with the individual consumer. A major awareness program, with Government support would be needed to provide the necessary initial impetus.

High wood costs are a continuing problem.

Even if the company focusses on hardwood plywood, the cost of the softwood veneers for the core is still critical. The plant is vulnerable to competition from other plants that may have lower wood costs. Most major producers with their highly automated production lines are probably unlikely to wish to develop a hardwood line.

It will therefore be important for the company to examine options for the supply of lower cost veneer to the operation. One alternative may be the supply of fibre from Alberta sources if these can be made available economically.

APPENDICES

1. **Canadian Structural Panel Consumption**
2. **Extracts from the Free Trade Agreement**

Appendix Table 1

**Estimated Canadian Markets
for
Coniferous Construction Plywood and Veneerboard/OSB
(thousands of cubic metres)**

	<u>British Columbia</u>			<u>Alberta</u>			<u>Saskatchewan</u>			<u>Manitoba</u>			<u>Western Total</u>		
	Ply	MB	Total	Ply	MB	Total	Ply	MB	Total	Ply	MB	Total	Ply	MB	Total
1979	410.0	3.0	413.0	394.2	16.0	410.0	110.3	22.0	132.0	101.9	18.0	120.0	1016.4	59.0	1075.0
1980	474.8	4.0	479.0	397.7	18.0	416.0	89.7	23.0	113.0	75.6	20.0	96.0	1037.8	65.0	1103.0
1981	413.9	10.0	424.0	380.8	39.0	420.0	98.6	32.0	131.0	88.5	25.0	113.0	981.8	106.0	1088.0
1982	298.0	8.0	306.0	282.8	31.0	314.0	74.6	18.0	93.0	70.5	15.0	85.0	725.9	72.0	798.0
1983	365.8	20.0	386.0	274.9	35.0	310.0	99.5	20.0	119.0	85.3	16.0	101.0	825.5	91.0	916.0
1984	289.0	35.0	324.0	218.0	45.0	263.0	63.0	27.0	90.0	31.0	20.0	111.0	661.0	127.0	788.0
1985	286.0	38.0	324.0	246.0	56.0	302.0	68.0	30.0	98.0	97.0	23.0	120.0	697.0	147.0	844.0
1986	280.0	53.0	333.0	222.0	65.0	287.0	68.0	35.0	103.0	92.0	35.0	127.0	662.0	188.0	850.0
1987 e	347.0	75.0	422.0	237.0	120.0	357.0	75.0	60.0	135.0	96.0	39.0	135.0	755.0	294.0	1049.0

	<u>Ontario</u>			<u>Quebec</u>			<u>Atlantic</u>			<u>Eastern Total</u>			<u>Canada Total</u>		
	Ply	MB	Total	Ply	MB	Total	Ply	MB	Total	Ply	MB	Total	Ply	MB	Total
1979	413.1	129.0	542.0	365.2	55.0	420.0	123.1	16.0	139.0	901.4	200.0	1101.0	1917.8	259.0	2176.0
1980	434.8	133.0	567.8	353.3	60.0	413.0	110.4	17.0	127.0	898.5	210.0	1108.0	1936.3	275.0	2211.0
1981	371.5	175.0	547.0	288.9	67.0	356.0	95.7	20.0	116.0	756.1	262.0	1018.0	1737.9	368.0	2106.0
1982	292.0	147.0	439.0	264.6	64.0	329.0	70.0	12.0	82.0	626.6	223.0	850.0	1352.5	295.0	1648.0
1983	375.5	254.0	630.0	338.7	116.0	455.0	102.3	13.0	115.0	816.5	383.0	1200.0	1642.0	474.0	2116.0
1984	385.0	311.0	696.0	322.0	98.0	420.0	93.0	14.0	107.0	800.0	423.0	1223.0	1461.0	550.0	2011.0
1985	469.0	320.0	789.0	349.0	109.0	458.0	90.0	15.0	105.0	908.0	444.0	1352.0	1605.0	591.0	2196.0
1986	498.0	401.1	899.0	359.0	137.0	496.0	94.0	15.0	109.0	951.0	553.0	1504.0	1613.0	741.0	2354.0
1987 e	616.0	455.0	1071.0	483.0	162.0	645.0	106.0	22.0	128.0	1205.0	638.0	1844.0	1960.0	932.0	2892.0

Source: Statistics Canada, CH1

1 Woodbridge, Reed estimates

1987 Woodbridge Reed projection from 9-month data

Chapter Four

Border Measures

Article 401: Tariff Elimination

1. Neither Party shall increase any existing customs duty, or introduce any customs duty, on goods originating in the territory of the other Party, except as otherwise provided in this Agreement.
2. Except as otherwise provided in this Agreement, each Party shall progressively eliminate its customs duties on goods originating in the territory of the other Party in accordance with the following schedule:
 - a) duties on goods provided for in each of the items designated as staging category A in each Party's Schedule contained in Annex 401.2 shall be eliminated entirely and such goods shall be free of duty, effective January 1, 1989;
 - b) duties on goods provided for in each of the items designated as staging category B in each Party's Schedule contained in Annex 401.2 shall be removed in five equal annual stages commencing on January 1, 1989, and such goods shall be free of duty, effective January 1, 1993; and
 - c) duties on goods provided for in each of the items designated as staging category C in each Party's Schedule contained in Annex 401.2 shall be removed in ten equal annual stages commencing on January 1, 1989, and such goods shall be free of duty, effective January 1, 1998.
3. The base rate of duty for purposes of determining the interim stages of reduction for a tariff item under subparagraphs (b) and (c) of paragraph 2 is the rate indicated for the item in each Party's Schedule contained in Annex 401.2.
4. Except as otherwise provided in this Agreement, goods originating in the territory of the other Party that are provided for in each of the items designated as staging category D in each Party's Schedule contained in Annex 401.2 shall continue to receive the existing duty-free treatment indicated therein for such goods.

Annex 401.2

A. Schedule of CANADA

attached

B. Schedule of the UNITED STATES OF AMERICA

attached

Item	Article description	Base rate	Staging Category
4408	Veneer sheets and sheets for plywood (whether or not spliced) and other wood sawn lengthwise, sliced or peeled, whether or not planed, sanded, or finger-jointed, of a thickness not exceeding 6 mm:		
4408.10.00	Coniferous.....	Free	D
4408.20.00	Of the following tropical wood: Dark Red Meranti, Light Red Meranti, White Lauan, Sipo, Limba, Okoume', Obeche, Acajou d'Afrique, Sapelli, Baboen, Mahogany (<i>Swietenia</i> spp.), Palissandre du Bresil and Bois de Rose femelle.....	Free	D
4408.90.00	Other.....	Free	D
4409	Wood (including strips and friezes for parquet flooring, not assembled) continuously shaped (tongued, grooved, rebared, chamfered, V-jointed, beaded, molded, rounded or the like) along any of its edges or faces, whether or not planed, sanded or finger-jointed:		
4409.10	Coniferous:		
4409.10.10	Wood siding.....	Free	D
4409.10.20	Wood flooring.....	3.2%	B
	Wood moldings:		
	Standard wood moldings:		
4409.10.40	Pine (<i>Pinus</i> spp.).....	1.5%	B
4409.10.45	Other.....	Free	D
4409.10.50	Other.....	4.5%	B
	Wood dowel rods:		
4409.10.60	Plain.....	2.5%	B
4409.10.65	Sanded, grooved or otherwise advanced in condition.....	7.6%	B
4409.10.90	Other.....	Free	D
4409.20	Nonconiferous:		
4409.20.10	Wood siding.....	Free	D
4409.20.25	Wood flooring.....	Free	D
	Wood moldings:		
4409.20.40	Standard wood moldings.....	Free	D
4409.20.50	Other.....	4.5%	B
	Wood dowel rods:		
4409.20.60	Plain.....	Free	D
4409.20.65	Sanded, grooved or otherwise advanced in condition.....	7.6%	B
4409.20.90	Other.....	Free	D
4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic binding substances:		
4410.10.00	Of wood.....	4%	B
4410.90.00	Of other ligneous materials.....	Free	D
4411	Fiberboard of wood or other ligneous materials, whether or not bonded with resins or other organic substances:		
	Fiberboard of a density exceeding 0.8 g/cm ³ :		
4411.11.00	Not mechanically worked or surface covered.....	3%	B
4411.19	Other:		
4411.19.20	Not surface covered (except for oil treatment).....	3%	B
4411.19.40	Other.....	6%	B

SCHEDULE OF THE UNITED STATES OF AMERICA

Item	Article description	Base rate	Staging Category
4411 (con.)	Fiberboard of wood, etc. (con.):		
	Fiberboard of a density exceeding 0.3 g/cm ³ but not exceeding 0.8 g/cm ³ :		
4411.21.00	Not mechanically worked or surface covered.....	3X	C
4411.29	Other:		
	Tongued, grooved, or rabbetted continuously along any of its edges and dedicated for use in the construction of walls, ceilings, or other parts of buildings:		
4411.29.20	Laminated boards bonded in whole or in part, or impregnated, with synthetic resins.....	2.9c/kg + 2.3X	C
4411.29.30	Other.....	Free	D
4411.29.60	Other:		
	Not surface covered (except for oil treatment).....	3X	C
4411.29.90	Other.....	6X	C
	Fiberboard of a density exceeding 0.35 g/cm ³ but not exceeding 0.5 g/cm ³ :		
4411.31.00	Not mechanically worked or surface covered.....	Free	D
4411.39.00	Other.....	Free	D
	Other:		
4411.91.00	Not mechanically worked or surface covered.....	Free	D
4411.99.00	Other.....	Free	D
4412	<u>Plywood, veneered panels and similar laminated wood:</u>		
	Plywood consisting solely of sheets of wood, each ply not exceeding 6 mm in thickness:		
4412.11.	With at least one outer ply of the following tropical woods: Dark Red Meranti, Light Red Meranti, White Lauan, Sipo, Limba, Okoume, Obeche, Acajou d'Afrique, Sapelli, Baboen, Mahogany (<i>Swietenia</i> spp.), Palissandra du Bresil or Bois de Rose femelle:		
4412.11.05	Tongued, grooved or rabbetted continuously along any of its edges and dedicated for use in the construction of walls, ceilings or other parts of buildings.....	2.9c/kg + 2.3X	B
	Other:		
	Not surface covered, or surface covered with a clear or transparent material which does not obscure the grain, texture or markings of the face ply:		
4412.11.10	With a face ply of birch (<i>Betula</i> spp.).....	3X	B
4412.11.20	Other.....	8X	B
4412.11.50	Other.....	8X	B
4412.12	Other, with at least one outer ply of non-coniferous wood:		
4412.12.05	Tongued, grooved or rabbetted continuously along any of its edges and dedicated for use in the construction of walls, ceilings or other parts of buildings.....	2.9c/kg + 2.3X	B

SCHEDULE OF THE UNITED STATES OF AMERICA

Item	Article description	Base rate	Staging Category
4412 (con.)	Plywood, veneered panels, etc. (con.):		
4412.12 (con.)	Plywood consisting solely of sheets, etc. (con.):		
	Other, with at least one outer ply of non-coniferous wood (con.):		
	Other:		
	Not surface covered, or surface covered with a clear or transparent material which does not obscure the grain, texture or markings of the face ply:		
4412.12.10	With a face ply of birch (<i>Betula</i> spp.).....	3%	B
4412.12.15	With a face ply of Spanish Cedar (<i>Cedrela</i> spp.) or Walnut (<i>Juglans</i> spp.).....	8%	B
4412.12.20	Other.....	8%	B
4412.12.30	Other.....	8%	B
4412.19	With both outer plies of coniferous wood:		
4412.19.05	Tongued, grooved or rabbetted continuously along any of its edges and dedicated for use in the construction of walls, ceilings or other parts of buildings.....	2.9c/kg + 2.3%	C
	Other:		
	Not surface covered, or surface covered with a clear or transparent material which does not obscure the grain, texture or markings of the face ply:		
4412.19.10	With a face ply of Parana pine (<i>Araucaria angustifolia</i>).....	5%	C
4412.19.30	With a face ply of European red pine (<i>Pinus silvestris</i>).....	5.3%	C
4412.19.40	Other.....	20%	C
4412.19.50	Other.....	8%	C
	Other, with at least one outer ply of nonconiferous wood:		
4412.21	Containing at least one layer of particle board:		
4412.21.05	Tongued, grooved or rabbetted continuously along any of its edges and dedicated for use in the construction of walls, ceilings or other parts of buildings.....	2.9c/kg + 2.3%	B
4412.21.10	Other.....	4%	B
4412.29	Other:		
4412.29.05	Tongued, grooved or rabbetted continuously along any of its edges and dedicated for use in the construction of walls, ceilings or other parts of buildings.....	2.9c/kg + 2.3%	B

deduct their expenses for advertising space in that magazine will be eliminated (Article 2007).

In Article 2008 and an agreed exchange of letters, the two governments address a long-standing irritant involving plywood standards. The Canada Mortgage and Housing Corporation will decide by March 15, 1988 whether to allow the use of C-D grade plywood (a U.S. standard) for use in housing it finances. If it agrees, a series of tariff concessions will begin to be implemented on January 1, 1989. If not, the issue will be placed before a panel of experts. Once the panel has completed its work, the two governments will determine how to implement the tariff concessions specified in Article 2008.

In Article 2009, the two governments agree to grandfather the 1986 Memorandum of Understanding on Softwood Lumber. That Memorandum provided that Canada would apply a tax on the export of softwood lumber to the United States until such time as the producing provinces had adjusted certain stumpage practices.

Most trade agreements contain provisions to deal with policy measures which either government may adopt which, while technically not inconsistent with the obligations of the agreement, have the effect of nullifying or impairing benefits that could have been reasonably expected under the agreement. The most obvious such measure is the establishment of a monopoly or state enterprise. A government can, for example, instead of regulating an industry, establish a state enterprise and give it monopoly powers. If the sole purpose of the establishment of such an enterprise is to evade an obligation under the agreement, the other party can legitimately cry foul. Article 2010 establishes rules governing the establishment of monopolies (based on similar provisions in Article XVII of the GATT) while Article 2011 (based on Article XXIII of the GATT) provides a framework to address any claim of nullification and impairment.

4. Immediately following implementation of the obligations in paragraph 1, the Parties shall establish a joint advisory committee comprised of government and private sector experts to review outstanding issues related to retransmission rights in both countries to make recommendations to the Parties within twelve months.

Article 2007: Print-in-Canada Requirement

Canada shall repeal section 19(5)(a)(i)(A) and (B) and section 19(5)(a)(ii)(A) and (B) of the *Income Tax Act*, which define a Canadian issue of a newspaper or a periodical for purposes of deduction from income of expenses of a taxpayer for advertising space, as one that is printed or typeset in Canada.

Article 2008: Plywood Standards

If the panel of experts referred to in the exchange of letters between the Parties of January 2, 1988 does not agree with the findings or evaluation of the Canada Mortgage and Housing Corporation (CMHC) or any successor regarding the use of C-D grade plywood in housing financed by CMHC, or if the panel has not completed its review by the date of entry into force of this Agreement, the United States may delay its tariff concessions on softwood plywood (4412.19.40 and 4412.99.40 in its Schedule in Annex 401.2) and waferboard, oriented strand board and particle-board of all species (4410.10.00), pending agreement by the Parties that the issues have been resolved satisfactorily. Should the United States of America delay implementation of these tariff concessions, Canada may delay implementation of its concessions on tariff items 4412.19.90, 4410.10.10 and 4410.10.91 in its Schedule in Annex 401.2.

Article 2009: Softwood Lumber

The Parties agree that this Agreement does not impair or prejudice the exercise of any rights or enforcement measures arising out of the Memorandum of Understanding on Softwood Lumber of December 30, 1986.

Article 2010: Monopolies

1. Subject to Article 2011, nothing in this Agreement shall prevent a Party from maintaining or designating a monopoly.

Article 2012: Definitions

For purposes of this Chapter:

cultural industry means an enterprise engaged in any of the following activities:

- a) the publication, distribution, or sale of books, magazines, periodicals, or newspapers in print or machine readable form but not including the sole activity of printing or typesetting any of the foregoing,
- b) the production, distribution, sale or exhibition of film or video recordings,
- c) the production, distribution, sale or exhibition of audio or video music recordings,
- d) the publication, distribution, or sale of music in print or machine readable form, or
- e) radio communication in which the transmissions are intended for direct reception by the general public, and all radio, television and cable television broadcasting undertakings and all satellite programming and broadcast network services;

C-D grade plywood means C-D grade plywood with exterior glue as described in U.S. Product Standard PS-1 for Construction and Industrial Plywood that is marked by a grading organization such as the American Plywood Association;

designate means to establish, designate, or authorize, or to expand the scope of a monopoly franchise to cover an additional good or covered service;

monopoly means any entity, including any consortium, that, in any relevant market in the territory of a Party, is the sole provider of a good or a covered service; and

sale includes offer for sale or distribution.

Washington, D.C.
January 2, 1988

The Honorable Pat Carney
Minister of International Trade
Ottawa, Ontario

Dear Mrs. Carney,

I am pleased to receive your letter of today's date, which reads as follows:

"I have the honour to confirm the following understanding reached between the delegations of Canada and of the United States of America in the course of negotiations regarding Article 2008 of the Free-Trade Agreement between our two governments signed this day:

- "1. No later than March 15, 1988, the Canada Mortgage and Housing Corporation (CMHC), or its successor, shall evaluate C-D grade plywood and decide whether to approve its use in housing financed by CMHC.
- "2. If the CMHC grants approval for the use of C-D grade plywood in CMHC-financed housing, the Parties shall begin tariff reductions on January 1, 1989 for plywood tariff linkage categories.
- "3. If the CMHC does not grant approval for the use of C-D grade plywood in CMHC-financed housing, or grants approval only in part, the Parties shall not begin tariff reduction for plywood tariff linkage categories until completion of a review of the CMHC evaluation by an impartial panel of experts acceptable to both Parties.
 - "a. The review shall examine whether the findings in the CMHC report and its evaluation of the American Plywood Association's application for CMHC approval of C-D grade plywood are unbiased and technically accurate.

"b. If the panel agrees that the CMHC findings and evaluation are unbiased and technically accurate, the Parties shall begin tariff reductions on January 1, 1989 for plywood tariff linkage categories.

"c. If the panel does not complete its review by January 1, 1989 or does not agree with the CMHC findings and evaluation, the provisions of Article 2008 shall apply.

"4. For the purpose of this letter: "C-D grade plywood" shall mean C-D grade plywood with exterior glue as described in U.S. Product Standard PS-1 for Construction and Industrial Plywood, which is marked by a grading organization such as the American Plywood Association.

"I have the honour to propose that this understanding be treated as an integral part of the Free-Trade Agreement.

"I further have the honour to propose that this letter and your letter of confirmation in reply constitute an agreement between our two Governments to enter into force on this day."

I have the honor to confirm that the understandings expressed in your letter are shared by my Government, and that your letter and this reply shall constitute an agreement between our respective Governments, to enter into force on this day.

Yours sincerely,

Clayton Yeutter